

What is claimed is:

1. A shock absorber which compensates for thermal expansion, said shock absorber comprising:

a rod guide assembly;

5 a pressure tube forming a compression chamber, said pressure tube
slidingly engaging said rod guide assembly;;

a piston slidably disposed within said compression chamber;

a piston rod connected to said piston;

a reserve tube disposed around said pressure tube, said reserve tube
and said pressure tube defining a fluid reservoir; and

10 a cylinder end assembly disposed between said compression chamber
and said fluid reservoir for controlling the flow of fluid between said compression
chamber and said fluid reservoir, said pressure tube slidingly engaging said cylinder end
assembly:

said floating pressure tube being able to move freely relative to said rod
15 guide assembly and said cylinder.

2. The shock absorber according to Claim 1, wherein said pressure tube
slidingly engages said cylinder end assembly.

3. The shock absorber according to Claim 1, further comprising a rod guide
assembly, said pressure tube slidingly engaging said rod guide assembly.

4. The shock absorber according to Claim 3, wherein said pressure tube
slidingly engages said cylinder end assembly.

5. A shock absorber which compensates for thermal expansion, said shock absorber comprising:

a pressure tube forming a compression chamber;

a piston slidably disposed within said compression chamber;

5 a two-piece piston rod connected to said piston, said piston rod including a shaft and a piston post, said piston post being secured to said piston.

6. The shock absorber according to Claim 5, wherein said shaft is made from a first material and said tip is made from a second material.

7. The shock absorber according to Claim 6, wherein said tip is threaded such that it screws onto said shaft.

8. The shock absorber according to Claim 6, wherein said tip is bonded to said shaft.

9. The shock absorber according to Claim 6, wherein said tip is secured to said shaft by a circle-clip.

10. A shock absorber which compensates for thermal expansion, said shock absorber comprising:

- a pressure tube forming a compression chamber;
- a piston slidably disposed within said compression chamber;
- 5 a piston rod connected to said piston;
- a reserve tube disposed around said pressure tube, said reserve tube and said pressure tube defining a fluid reservoir;
- a rod guide assembly defining an internal bore for receiving said piston rod for facilitating movement of said piston rod;
- 10 a cylinder end assembly disposed between said compression chamber and said fluid reservoir for controlling the flow of fluid between said compression chamber and said fluid reservoir; and
- a biasing member disposed between said pressure tube and said rod guide assembly for urging said pressure tube away from said rod guide assembly.

11. The shock absorber according to Claim 10, wherein said biasing member is at least one Belleville spring.

12. The shock absorber according to Claim 10, wherein a retainer is disposed between said rod guide and said biasing member.

13. The shock absorber according to Claim 10, wherein a retainer for supporting said biasing member is disposed between said biasing member and said pressure tube.

14. The shock absorber according to Claim 13, wherein said rod guide assembly further includes a bushing for facilitating movement of said piston rod.

15. The shock absorber according to Claim 14, wherein said retainer retains said bushing.

16. A shock absorber which compensates for thermal expansion, said shock absorber comprising:

- a pressure tube forming a compression chamber;
- a piston slidably disposed within said compression chamber;
- 5 a piston rod connected to said piston;
- a reserve tube disposed around said pressure tube, said reserve tube and said pressure tube defining a fluid reservoir;
- a base valve assembly disposed between said compression chamber and said fluid reservoir for controlling the flow of fluid between said compression
- 10 chamber and said fluid reservoir; and
- a biasing member disposed between said pressure tube and said base valve assembly for urging said pressure tube away from said base valve assembly.

17. The shock absorber according to Claim 16, wherein said biasing member is a Belleville spring.

18. The shock absorber according to Claim 17, wherein said Belleville spring is secured to said base valve assembly by a circle-clip.

19. The shock absorber according to Claim 17, wherein said spring is secured to said base valve assembly by a spring retainer.

20. The shock absorber according to Claim 17, wherein said spring is disposed between two radial retainers secured to the base valve assembly.

21. The shock absorber according to Claim 16, wherein said base valve assembly has two portions, a top portion connected to said pressure tube and a bottom portion connected to said reserve tube, said top portion slidably engaging said bottom portion.

22. The shock absorber according to Claim 21, wherein said biasing member is disposed between said top portion and said bottom portion.

23. The shock absorber according to Claim 16, wherein said biasing member and one end of said pressure tube are disposed within said base valve assembly.

24. A shock absorber which compensates for thermal expansion, said shock absorber comprising:

a pressure tube forming a compression chamber;

a piston slidably disposed within said compression chamber;

5 a piston rod connected to said piston;

a reserve tube disposed around said pressure tube, said reserve tube and said pressure tube defining a fluid reservoir;

a base valve assembly disposed between said compression chamber and said fluid reservoir for controlling the flow of fluid between said compression
10 chamber and said fluid reservoir;

a base plate slidably engaging said reserve tube adjacent said base valve assembly; and

a biasing member disposed between said base plate and an end of said reserve tube for urging said base plate away from said end of said reserve tube.

25. The shock absorber according to Claim 24, wherein said biasing member is a Belleville spring.

26. The shock absorber according to Claim 24, wherein said biasing member is an elastomeric block.

27. The shock absorber according to Claim 24, wherein said biasing member is a pressurized gas.